

OSS Measurements - Revised 5/21/98

# / Measurement Title	Formula	Who supports?	Retail Equivalent?
	Add "in reporting period" as global statement except as noted		
BILLING			
38a. Usage Timeliness	38a. (Count of unrated call data records that are available to the CLEC within 5 days / Total count of unrated call data records) × 100	Pacific	Retail equivalent for resale usage delivery. Pacific Bell is reporting it currently. Defined as the number of days that it takes from when the switch records the call to when that call is available for our billing to the retail customer.
38b. Usage Timeliness	38b. {SUM[(Data set transmission date) – (Date of message recording)] / (Count of all messages transmitted in reporting period)}	AT&T, Worldcom, MCI, Sprint	see above
39. Accuracy of Usage Feed	39. [(Number of usage records delivered in the reporting period that reflected complete information content and proper formatting) / (Total number of usage records transmitted)] × 100	AT&T, Worldcom, MCI, Sprint	Still under development.
ADDITIONAL MEASURES			
40a. Wholesale bill timeliness	40a. (Count of mechanized bills that are delivered within 10 calendar days of the bill date / Total count of mechanized bills) × 100	Pacific	No.
40b. Wholesale bill timeliness	40b. SUM[(Invoice transmission date) – (Date of scheduled bill cycle close)] / (Count of invoices transmitted in reporting period)	MCI, AT&T, Worldcom, Sprint	No.
# / Measurement Title	Formula	Who supports?	Retail Equivalent?
	Add "in reporting period" as global statement except as noted		
41. Usage Completeness	41. (Count of usage charges on the bill that were recorded within last 30 days / Total count of usage charges on the bill) × 100	Pacific, AT&T, MCI, Sprint	No.

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42a. Recurring Charge Completeness	42a. (Count of fractional recurring charges that are on the correct bill / Total count of fractional recurring charges on the bill) $\times 100$	Pacific, AT&T, MCI, Sprint	see above
43a. Nonrecurring charge completeness	43a. (Count of nonrecurring charges that are on the correct bill period / Total count of nonrecurring charges that are on the bill) $\times 100$	Pacific, AT&T, MCI, Sprint	see above
44a. Bill Accuracy	44a. (Total monies billed without corrections / Total monies billed) $\times 100$	Pacific	No.
44b. Accuracy of Mechanized bill feed	44b. (Total # of files that passed / Total # of files sent in reporting period) $\times 100$	AT&T, Worldcom, MCI, Sprint	see above
44c. Bill Accuracy	44c. (# Calls re-rated by ILEC / Total # toll calls) $\times 100$ for the reason code for calls between ILEC customer And CLEC customer That had to be re-rated because inappropriate toll charges were applied.	TCG	No. Toll charges adajusted for ILEC customer.

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	Add "in reporting period" as global statement except as noted		
OPERATOR SERVICES & DIRECTORY ASST.		AT&T, Worldcom, Sprint, TCG, MCI	
50. Call abandonment rate	50. (Count of calls terminated before answer during the reporting period) / (Count of all calls placed in queue during the reporting period) By OS & DA	TCG	Yes. Parity by design.
51. Average work time	51. OS Avg. work time per call, DA average work time per call: SUM(Call release time – Call answer time) / # calls	TCG	Yes. Parity by design.
52b. DA database update interval – Time it shows up in the database, see availability of network elements	52b. SUM[(Date of DA database change) – (Date of DA database order)] / (Total # of DA database changes)	AT&T	Still under development.
53a. DA grade of service 5/18/98 This series of measures would be introduced when ILECs able to distinguish diff. Customers	53a. (Total DA Calls – Calls during 1/2 hours exceeding 12.0 answer) divided by Total Calls × 100 -5/21/98 all parties agree on formulas and disaggregation	GTE, Pacific	

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# / Measurement Title	Formula	Who supports?	Retail Equivalent?
	Add "in reporting period" as global statement except as noted		
INTERCONNECT/ UNBUNDLED ELEMENTS & COMBOS (IUE)			
ADDITIONAL MEASURES: Network Performance Parity = SUM (Network Performance Parameter Result) / (Number of Tests Conducted)		AT&T, Worldcom, MCI, Sprint	
55b. Stand alone disconnects: disconnect w/o INP	55b. (# of erroneous disconnects in reporting period for reporting entity) / (Total # disconnects for reporting entity)	AT&T	No. Different underlying process on retail side.
57. Center call abandonment rate	57. (Count of calls terminated before answer during the reporting period) / (Count of all calls placed in queue during reporting period) 5/21/ COMBINE 50 AND 57 INTO ONE MEASURE – Disaggregate by call center and by queue.	AT&T, Worldcom, Cox, TCG, MCI, Sprint	Yes. Parity by design.

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# / Measurement Title	Formula	Who supports?	Retail Equivalent?
	Add "in reporting period" as global statement except as noted		
59b. 911 Selective Router update within 24 hours	59b. $\% \text{ of updates} \geq 24 \text{ hours}$ $= (\text{Total updates} \geq 24 \text{ hours} / \text{Total updates}) \times 100$	Sprint, AT&T, MCI	Yes. Selective Router - parity by design. ALI Database can be measured.
60b. Selective router update accuracy	60b. $[(\# \text{ of defects found during the course of business}) / (\text{Total} \# \text{ of customers populated in database by entity})] \times 100$	AT&T	Yes. Selective Router - parity by design. ALI Database can be measured.
61a. ALI database update average	61a. $(\text{Number of records updated within 2 business days} / \text{Total number of records updated}) \times 100$ "take ILEC regions off"	Pacific, MCI, AT&T , Sprint, TCG, Worldcom	Yes.
62a. ALI database update accuracy	62a. $(\text{Number of accurate records} / \text{Total records in resale database}) \times 100$	MCI, TCG, AT&T , Pacific	Yes.
62b. ALI database update accuracy	62b. $[(\# \text{ of records input accurately}) / (\text{Total} \# \text{ records input during reporting period})] \times 100$	AT&T	Yes.
64b. NXX loaded and tested prior to LERG effective date	64b. $(\text{Actual} \# \text{ of switches in which the NXX is opened}) / \text{Required} \# \text{ of switches in which the NXX needs to be open}$		Yes.

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# / Measurement Title	Formula	Who supports?	Retail Equivalent?
	Add "in reporting period" as global statement except as noted		
65b. MTTR for NXX troubles	65b. $\text{SUM}[(\text{Date \& time of NXX trouble cleared}) - (\text{Date \& time of NXX trouble reported})] / (\text{Count of NXX troubles})$	AT\&T	Yes.
66. Customer Desired Due Date Met	66. $[(\text{Count of FOCs that meet CDDD per report entity}) / (\text{Total \# FOCs per report entity})] \times 100$		No. There is no parity process; no FOCs on the retail side.
67. SS7	67. Mean time to notify CLEC of an SS7 interruption following ILEC's (Centralized Control Center) becoming aware/notified of following network events = $\text{SUM}[(\text{Date \& time of ILEC outage aware/notified}) - (\text{Date \& time of outage notification to the CLEC})] / \# \text{ of SS7 interruptions}$		See #32.



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# / Measurement Title	Formula Add "in reporting period" as global statement except as noted	Retail Analog? Y/N Equation/Comments	Disaggregation Comments	Geography Reported/ Reporting Frequency
PREORDERING				
1b. OSS Query Response Time	1b. $\text{SUM}[(\text{Query response date \& time}) - (\text{Query submission date \& time})] / (\text{Number of queries submitted in reporting period})$	GTE supports the reporting of this measure <u>only</u> for the EDI and GUI interfaces. For GUI and EDI interface the "most likely " retail analog is the average response time for Mechanized Service Order System (MSOS) or a sample developed from an equivalent screen containing multiple queries. There is no retail analog for the pre-order function internally reported by query type or for fax.		National (Interface is not state specific and the performance of the interface will not differ based upon geographic boundaries) and Monthly
2a. OSS Interface Availability	2a. $\{[(\# \text{ of scheduled system available hours}) - (\# \text{ of unscheduled system unavailable hours})] / \text{Scheduled system available hours} \} \times 100$	GTE does not use the GUI or EDI interfaces to access the legacy systems so a direct analog does not exist for the interface. Access to the OSS functionality could be compared to the supporting legacy system and an assumption made that the interface should fail no more frequently than the legacy system. For Pre-order and Order, SOLAR and NOCV, when deployed, are the appropriate legacy systems. For Repair, TAS availability is appropriate.		National (Interface is not state specific and the performance of the interface will not differ based upon geographic boundaries) and Monthly
2b. OSS Interface Availability	2b. $\% \text{ System Availability} = [(\text{Hours functionality is available to CLECs during report period}) / (\text{Number of hours functionality was scheduled to be available during the period})] \times 100$	Similar comments as 2A		National (Interface is not state specific and the performance of the interface will not differ based upon geographic boundaries) and Monthly
ORDERING				

3a. Order Confirmation Timeliness	3a. $\text{SUM}[(\text{Date \& time of FOC}) - (\text{Business date and time of receipt of service request})] / (\text{\# of FOCs sent})$	<i>A retail analog does not exist until EDI is deployed. To report, time stamp must be added to ordering systems. LSCs processed via SIGS, FOCs via Access Ordering System (EXACT). Confirmation that the retail order has been accepted for processing normally occurs with the end user on the line. CLECs using EDI order interface may receive at parity.</i>	<i>Measure is not applicable for complex/projects.</i>	<i>National (Interface is not state specific and the performance of the interface will not differ based upon geographic boundaries) and Monthly</i>
3b. Order Confirmation Timeliness	3b. $\text{Sum}[(\text{Date and time of firm order confirmation}) - (\text{Date and time of order acknowledgment})] / (\text{Number of orders confirmed in reporting period})$	<i>See 3a</i>		<i>National (Interface is not state specific and the performance of the interface will not differ based upon geographic boundaries) and Monthly</i>
4. Reject Timeliness	4. $\text{SUM}[(\text{Date and time of order rejection}) - (\text{Date and time of order receipt})] / (\text{\# of orders rejected})$	<i>A retail analog does not exist until EDI is deployed. To report, time stamp must be added to ordering systems. LSCs processed via SIGS, FOCs via Access Ordering System (EXACT). Confirmation that the retail order has been accepted for processing normally occurs with the end user on the line. CLECs using EDI order interface may receive at parity.</i>	<i>GTE can only report rejects in aggregate. A syntax rejection is not necessarily order specific. Projects excluded.</i>	<i>National (Interface is not state specific and the performance of the interface will not differ based upon geographic boundaries) and Monthly</i>
6a. Order Accuracy	6a. $(\text{\# of mechanized service requests completed as ordered} / \text{Total service requests completed}) \times 100$	<i>Retail analog does not exist</i>		<i>National (Interface is not state specific and the performance of the interface will not differ based upon geographic boundaries) and Monthly</i>
6b. Order Accuracy	6b. $(\text{SUM Orders completed w/o error}) / (\text{SUM Orders completed}) \times 100$	<i>Retail analog does not exist.</i>		<i>National (Interface is not state specific and the performance of the interface will not differ based upon geographic boundaries) and Monthly</i>

7a. Order Status	7a. SUM[(Date and time of completion notification to CLEC) – (Date and time of work completion)] / (# of orders completed)	Retail analog does not exist. To report, time stamp and reason code must be added to ordering systems. GTE currently provides information via the Service Order Activation Report.	LSCs processed via SIGS, FOCs via Access Ordering System (EXACT) would be reported separately.	National (Interface is not state specific and the performance of the interface will not differ based upon geographic boundaries) and Monthly
7b. Order Status	7b. (Number of orders jeopardized) / (Number of orders confirmed)	Retail analog does not exist. To report, reason code must be added to ordering systems.	LSCs processed via SIGS, FOCs via Access Ordering System (EXACT) would be reported separately.	National (Interface is not state specific and the performance of the interface will not differ based upon geographic boundaries) and Monthly
7c. Order Status	7c. SUM[(Date and time of committed due date for order) – (Date and time of jeopardy notice)] / (Number of orders jeopardized)	Retail analog does not exist. To report, time stamp and reason code must be added to ordering systems.	LSCs processed via SIGS, FOCs via Access Ordering System (EXACT) would be reported separately.	National (Interface is not state specific and the performance of the interface will not differ based upon geographic boundaries) and Monthly
8a. Percent flow-through Orders	8a. [(# of mechanized orders that flow through without manual intervention / Total valid mechanized service requests)] × 100	Retail analog does not exist unless order is electronically transmitted. All retail orders are manually entered. On line edits intended to prevent processing of incorrect data.	Measure would apply only to orders electronically processed for order types where ATIS EDI standards exist..	National (Interface is not state specific and the performance of the interface will not differ based upon geographic boundaries) and Monthly
PROVISIONING				
9b. Average Offered Interval	9b. SUM[(Date & time DD provided on order confirmation) – (Date and time of receipt of svc. request)] / (# of committed due dates)	GTE suggests this is redundant with Average Completed Interval. The measure could be created for retail if required. Time stamp must be added to ordering systems.		State and Monthly

10a. Average Completed Interval	10a. Total business days from receipt of valid, error-free svc. request to completion date in SORD for N,T,C orders / Total N,T,C orders <i>(Numerator and denominator exclude customer requested due dates greater than the standard interval, and misses due to customer reasons).</i>	Same as 10 c with GTE specific order type and ordering systems.		State and Monthly
10b. Average Completed Interval	10b. SUM[(Completion date & time) – (Order submission date & time)] / (Count of orders completed)	GTE would require system change to reflect time stamp on back end systems. Retail completion interval would be analog for resale.		State and Monthly
10c. Average Completed Interval	10c. Total business days from receipt of valid, error-free service requests to completion date for I,T,C orders / Total I,T,C orders <i>Does not include customer requested dates beyond interval offered or orders delayed for customer reasons.</i>	GTE would support retail analog for resale.		State and Monthly
11a. Percent Completed Within Standard Interval	11a. Total N,T,C orders completed within the standard interval from receipt of valid error-free PON / Total N,T,C orders <i>(numerator and denominator exclude customer requested due dates greater than the standard interval, and misses due to customer reasons.</i>	GTE could create the retail analog (with GTE specific order types) for resale but notes average completed interval and percent missed installation appointments measurements sufficiently reflect provisioning performance.		State and Monthly
12a. Percent Missed Installation Appointments	12a. [Total number of missed due dates due to company reasons for N,T,C orders / Total number of N,T,C orders] × 100	See 12c		State and Monthly
12b. Percent Missed Installation Appointments	12b. [(Count of orders completed within ILEC committed due date) / (Count of orders completed)] × 100	See 12c. Reflects percent met vs. title of percent missed.		State and Monthly
12c. Percent Provisioning commitments met	12c. [Total # of commitments met on I,T,C, M orders / Total # completed I,T,C, M orders] × 100 <i>same exceptions as in formula 10</i>	GTE currently reports due date commitments met as shown here, but could reflect as missed commitments in 12a. Reason codes must be added.		State and Monthly

13a. Facility Missed Orders - Alt. Title? (Percent Company Missed Due Dates Due to Lack of Facilities)	13a. $[\text{Total N,T,C orders with missed due dates due to lack of facilities} / \text{Total \# of N,T,C orders}] \times 100$	<i>GTE could create this measure for retail if required but recommends deletion if reason codes are utilized in measurement 12. There would be programming and training requirements for the reason code implementation.</i>		State and Monthly
13c. Facility Missed Orders - Alt. Title? (Facility held orders)	13c. $[(\text{Count of orders not completed on or before ILEC committed due date due to lack of facilities}) / (\text{Count of orders scheduled to be completed during reporting period})] \times 100$	See 13a		State and Monthly
14a. Percent Installation Troubles within 30 days	14a. $(\text{Total number of N,T,C orders that receive a network customer trouble report within 30 calendar days of service order completion} / \text{Total N,T,C orders}) \times 100$ <i>(excludes trouble reports received on the due date).</i>	<i>Retail analog (with GTE specific order types) for resale specials exists. GTE could create for resale POTS. (see 14c)</i>		State and Monthly
14b. Percent Installation Troubles within 30 days	14b. $(\text{Total \# of designed I,T,C orders that receive a network customer trouble report within 30 calendar days of service order completion} / \text{Total completed designed I,T,C orders}) \times 100$	Same as 14a with GTE specific order types.		State and Monthly
14c. Percent Installation Troubles within 7 days	14c. $(\text{Total number of non-designed I,T,C orders that receive a network customer trouble report within 7 calendar days of service order completion} / \text{Total completed non-designed I,T,C orders}) \times 100$	Current retail analog for resale POTS.		State and Monthly
14d. Percentage of New Service Troubles Additional Measurement Suggested	14d. $[(\text{Total \# of orders completed in previous reporting period that receive a customer trouble reported within 30 days of service order completion}) / (\text{Total \# of orders completed in previous reporting period})] \times 100$	See 14a and 14c. Retail analog could be developed.		State and Monthly
15b. Average Notification Of Changes	15b. $\text{SUM}[(\text{Date of interface change}) - (\text{Date of change notification})] / (\text{Total number of changes made to interface})$	<i>Pending current change management discussions. GTE prefers not to report as performance measure but provide per contract and process.</i>		Pending
16b. Average Notification Of Outages	16b. $\text{SUM}[(\text{Date \& time of interface outage}) - (\text{Date \& time of outage notification})] / (\text{Total number of interface outages})$	See 16a.		Pending

17b.	17b. See 20b, 20c, 20d.			
18a. Delay order interval to completion date: if an order is delayed, how long has it been delayed	18a. $\text{SUM}(\text{Completion date} - \text{Committed order due date}) / (\# \text{ of completed orders})$ <i>For lack of facilities only</i>	<i>GTE recommends deletion as redundant. Reporting by reason code in 12c (Due dates Met/Missed) and 20a,b,c (Held Order Interval) will reflect. Retail analog would apply.</i>		State and monthly
19b. Coordinated customer conversion as a percentage on time	19b. $[(\# \text{ of coordinated orders with disconnection, loop provisioning, and INP (if applicable) completed by due date}) / (\text{Count of coordinated orders with disconnection or loop provisioning (with or without INP) completed in reporting period})] \times 100$ exclusion: CLEC caused misses	<i>No retail analog. GTE recommends enhancement of service group type to include INP and report for 12a,c Percent Missed/Met Due Date.</i>	Disaggregation – eliminate reason code, interfaces	State and monthly
20a. Held order interval (Similar to “average delay days”): service orders not completed by the original due date for any reason, including lack of facilities	20a. $\text{SUM}(\text{Reporting period close date} - \text{Committed order due date}) / (\# \text{ of orders pending and past the committed due date})$ <i>for all orders pending and past the committed due date</i>	<i>Retail analog for resale would exist with reason code added.</i>		State and monthly
20b. Held order interval (Similar to “average delay days”): service orders not completed by the original due date for any reason, including lack of facilities	20b. $[(\# \text{ of orders held for } \geq 90 \text{ days}) / (\text{Total } \# \text{ of orders pending but not completed})] \times 100$	<i>Retail analog for resale would exist with reason code added.</i>		State and monthly

20c. Held order interval (Similar to "average delay days"): service orders not completed by the original due date for any reason, including lack of facilities	20c. [(# of orders held for ≥ 15 days) / (Total # of orders pending but not completed)] $\times 100$	Retail analog for resale would exist with reason code added.		State and monthly
20d. Held order interval (Similar to "average delay days"): service orders not completed by the original due date for any reason, including lack of facilities	20d. (# of orders held > 30 days / Total # of orders pending but not completed) $\times 100$	Retail analog for resale would exist with reason code added.		State and monthly
21c. Average Service loss -- loss of dial tone, loss of inbound call service EARLY CUTS	21c. For all INP orders cut early: SUM due time – cutover time) / Total INP orders cut early. (Mean & Standard deviation) <u>*Exclusions</u> Projects (over 20 lines or greater per cust.) Customer & CLEC caused misses	No retail analog exists.		
21f. Average Service loss – loss of dial tone, loss of inbound call service LATE CUTS	21f. For all INP orders cut late: SUM(due time) – cutover time) / Total INP orders cut late. (Mean and Standard deviation))) <u>*Exclusions</u> Projects (over 20 lines or greater per cust.) Customer & CLEC caused misses	No retail analog exists.		
70. Percent INP ports within 30 days	70. Percent of INP N,T,C orders that receive a network customer trouble report not caused by CPE or wiring within 30 calendar days of service order completion excluding subsequent reports and all disposition code "12" and "13" reports (excludable reports).	With GTE specific order types suggest including under measure 14. No direct retail analog but could possibly compare to Remote Call Forward trouble incidents.		State and monthly

71. Percent Missed Due Dates	71. Percent of INP N,T,C orders where installations are not completed by the negotiated due date excluding customer caused misses.	No retail analog. Suggest any reporting as part of measure 12.		
MAINTENANCE NOTE: trouble reports [in provisioning]" Start and stop point needs clarifying for some of the above.				
22c. Customer Trouble Report Rate	22c. (Total number of customer initial and repeat network trouble reports / # of access lines in service at the end of the prior reporting period) × 100	Retail resale analog exists.		State and monthly.
23a. Missed Repair Appointments	23a. [(Count of customer troubles resolved by the quoted resolution time and date) / (Count of customer trouble tickets closed)] × 100	Retail resale analog exists.		State and monthly.
23b. Missed Repair Appointments	23b. [Total network trouble reports not cleared by the commitment time for company reasons / Total network trouble reports completed] × 100	Retail resale analog exists.		State and monthly
24a. Mean Time to Repair	24a. SUM[(Date and time of ticket closure) – (Date and time of ticket creation)] / (Count of trouble tickets closed)	Retail resale analog exists.		State and monthly.
24b. Mean Time to Repair	24b. Total duration of customer network trouble reports / Total customer network trouble reports	Retail resale analog exists.		State and monthly.

25b. Out of Service less than 24 Hours	25b. (Total number of out of service network troubles cleared in less than 24 hours / Total number of out of service network troubles reported) $\times 100$ for non-designed activity exclusions: Saturday, Sunday and holidays, no access, all CPE and CLEC troubles, subsequents	Retail resale analog exists.		State and monthly.
25c. Out of Service less than 24 Hours	25c. (Total number out of service trouble reports < 24 hours / Total number of out of service trouble reports) $\times 100$	Retail resale analog exists.		State and monthly.
26b. Total and Percent Repeat Trouble Reports within 30 days	26b. (Total customer network trouble reports, not caused by CPE or wiring and excluding subsequent reports, received within 30 calendar days of a previous customer report / Total customer network trouble reports closed not caused by CPE or wiring and excluding subsequent reports) $\times 100$	Retail resale analog exists.		State and monthly.
ADDITIONAL MAINTENANCE MEASUREMENTS				
27c. Notification of trouble ticket closure and status	27c. [(Resolution of trouble ticket time and date) – (System closure of trouble ticket time and date)]	No retail resale analog.		
28a. Percent Common Trunk Blocking	28a. (Number of common transport trunk groups exceeding 2% blockage / Total number of common transport trunk groups) $\times 100$ (move into network section)	Parity exists by definition. Reporting at required level could provide strategic information. GTE would report to commission.		Monthly.

29c. Percent Dedicated Final Trunk Blocking – NEW TITLE: % Dedicated Trunk Blockage	29c. (Number of dedicated transport trunk groups exceeding 2% blockage / Total number of dedicated transport trunk groups) × 100 (move into network section)	Impacted by control of trunk group. No parity issue.		Monthly.
30a. Center Responsiveness	30a. [(Total queue time*) / (Total calls answered by center)] * (Date & time of call answer) – (Date & time of call receipt)	Comparison could be made for like functions, e.g., ordering, repair.		Center platform and Monthly.
ADDITIONAL MEASURE RELATED TO NETWORK PERFORMANCE				
32, 36, 37, 67b Network Outage Notification	SUM[(Date & time of ILEC outage aware/notified) – (Date & time of outage notification to the CLEC)] / Number of interruptions]] • To be measured and reported for the following subcategories - switching - transport - 911 - SS7 - Etc. as agreed	No Retail Analog exists today. System and process development needed to meet reporting requirements. Still being discussed with CLCs.		State and monthly exception

BILLING				
38a. Usage Timeliness	38a. (Count of unrated call data records that are available to the CLEC within 5 days / Total count of unrated call data records) \times 100	<i>Under development.</i>	Disaggregation: Resale, UNE (intralata) Meet-point billing, including access for PB GTE: UNE/resale and access for meet-point billing only. Most disaggregation: For all billing measures by CLEC and CLEC aggregate and by month	<i>State and monthly.</i>
38b. Usage Timeliness	38b. {SUM[(Data set transmission date) – (Date of message recording)] / (Count of all messages transmitted in reporting period)}	<i>Under development.</i>	Same as for 38a. – UNE either will record intralata or all forms of access except for mt.-point PB	<i>State and monthly.</i>
39. Accuracy of Usage Feed	39. [(Number of usage records delivered in the reporting period that reflected complete information content and proper formatting) / (Total number of usage records transmitted)] \times 100	<i>Under development.</i>	By CLEC by month	<i>State and monthly.</i>
ADDITIONAL MEASURES				
40a. Wholesale bill timeliness	40a. (Count of mechanized bills that are delivered within 10 calendar days of the bill date / Total count of mechanized bills) \times 100	<i>No retail analog.</i>	Resale, UNE, Facilities/Interconnect – by CLEC and all CLECs both PB & GT	<i>State and monthly.</i>
40b. Wholesale bill timeliness	40b. SUM[(Invoice transmission date) – (Date of scheduled bill cycle close)] / (Count of invoices transmitted in reporting period)	<i>No retail analog.</i>	Same disaggregation as 40a.	<i>State and monthly.</i>

41. Usage Completeness	41. (Count of usage charges on the bill that were recorded within last 30 days / Total count of usage charges on the bill) \times 100	No retail analog.	Disaggregation same as 40.	State and monthly.
42a. Recurring Charge Completeness	42a. (Count of fractional recurring charges that are on the correct bill / Total count of fractional recurring charges on the bill) \times 100	No retail analog	Disaggregation same as 40.	State and monthly.
43a. Nonrecurring charge completeness	43a. (Count of nonrecurring charges that are on the correct bill period / Total count of nonrecurring charges that are on the bill) \times 100	No retail analog.	Disaggregation same as 40	State and monthly.
44a. Bill Accuracy	44a. (Total monies billed without corrections / Total monies billed) \times 100	No retail analog.	Resale, UNE, Facilities/Interconnect, within each usage, recurring charges, nonrecurring chges.	State and monthly.
44b. Accuracy of Mechanized bill feed	44b. (Total # of files that passed / Total # of files sent in reporting period) \times 100	No retail analog.	Disaggregation – none except by CLEC and for all CLECs	State and monthly.
44c. Bill Accuracy	44c. (# Calls re-rated by ILEC / Total # toll calls) \times 100 for the reason code for calls between ILEC customer And CLEC customer That had to be re-rated because inappropriate toll charges were applied.	No retail analog. Calculation would require manual inspection of retail adjustments.	Disaggregation – business/residence on statewide basis. CLEC and CLEC aggregate	
OPERATOR SERVICES & DIRECTORY ASST.				
50. Call abandonment rate	50. (Count of calls terminated before answer during the reporting period) / (Count of all calls placed in queue during the reporting period) By OS & DA	No analog as platform based. Decision to terminate may not be reflective of responsiveness.		By platform and monthly.

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51. Average work time	51. OS Avg. work time per call, DA average work time per call: $\text{SUM}(\text{Call release time} - \text{Call answer time})$ / # calls	<i>No analog as platform based.</i>		<i>By platform and monthly.</i>
52b. DA database update interval – Time it shows up in the database, see availability of network elements	52b. $\text{SUM}[(\text{Date of DA database change}) - (\text{Date of DA database order})]$ / (Total # of DA database changes)	<i>Under development</i>		
53a. DA grade of service 5/18/98 This series of measures would be introduced when ILECs able to distinguish diff. Customers	53a. (Total DA Calls – Calls during 1/2 hours exceeding 12.0 answer) divided by Total Calls $\times 100$ -5/21/98 all parties agree on formulas and disaggregation	<i>Not applicable.</i>		
INTERCONNECT/ UNBUNDLED ELEMENTS & COMBOS (IUE)				
ADDITIONAL MEASURES: Network Performance Parity = SUM (Network Performance Parameter Result) / (Number of Tests Conducted)				
55b. Stand alone disconnects: disconnect w/o INP	55b. (# of erroneous disconnects in reporting period for reporting entity) / (Total # disconnects for reporting entity)	<i>No retail analog. Different processes. End user experiencing outage would report.</i>		

57. Center call abandonment rate	57. (Count of calls terminated before answer during the reporting period) / (Count of all calls placed in queue during reporting period) 5/21/ COMBINE 50 AND 57 INTO ONE MEASURE – Disaggregate by call center and by queue.	See 50.		Platform and monthly.
59b. 911 Selective Router update within 24 hours	59b. % of updates \geq 24 hours = (Total updates \geq 24 hours / Total updates) \times 100	Not applicable.		
60b. Selective router update accuracy	60b. [(# of defects found during the course of business) / (Total # of customers populated in database by entity)] \times 100	Not applicable.		
61a. ALI database update average	61a. (Number of records updated within 2 business days / Total number of records updated) \times 100 “take ILEC regions off”	Not applicable.		
62a. ALI database update accuracy	62a. (Number of accurate records / Total records in resale database) \times 100	Not applicable.		
62b. ALI database update accuracy	62b. [(# of records input accurately) / (Total # records input during reporting period)] \times 100	Not applicable		
64b. NXX loaded and tested prior to LERG effective date	64b. (Actual # of switches in which the NXX is opened) / Required # of switches in which the NXX needs to be open	Retail NXX trouble reports would be comparison if CLC reported as NXX trouble report.		State and Exception basis.
65b. MTTR for NXX troubles	65b. SUM[(Date & time of NXX trouble cleared) – (Date & time of NXX trouble reported)] / (Count of NXX troubles)	Retail analog exists.		State and monthly.

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66. Customer Desired Due Date Met	66. $\frac{[(\text{Count of FOCs that meet CDDD per report entity}) / (\text{Total \# FOCs per report entity})] \times 100}{}$	No retail analog. There is not a similar process or notification for retail.		
67. SS7	67. Mean time to notify CLEC of an SS7 interruption following ILEC's (Centralized Control Center) becoming aware/notified of following network events = $\frac{\text{SUM}[(\text{Date \& time of ILEC outage aware/notified}) - (\text{Date \& time of outage notification to the CLEC})]}{\text{\# of SS7 interruptions}}$	See measure 32.		State and Monthly.